

Patent Claims:

1. Method of monitoring an electrohydraulic brake system for motor vehicle, with a master brake cylinder (2) operable by means of a brake pedal (1), with a travel simulator (3) cooperating with the brake pedal (1), with at least one pressure source actuatable by an electronic regulation and control unit (16) which is formed of a high-pressure accumulator (21) that can be charged by means of a pump (23), and the pressure of the pump can be applied to wheel brakes (7, 8) of the vehicle which are connectable to the master brake cylinder (2), on the other hand, by means of at least one hydraulic connection (5) that can be closed by means of a separating valve (11), with a device (33) for detecting the driver's deceleration request, and with each one inlet valve (17, 18) connected upstream of the wheel brakes (7, 8) and an outlet valve (27, 28), c h a r a c t e r i z e d by the following process steps:
  - deactivating of an electronic control associated with the charging operation of the high-pressure accumulator and to be carried out by the electronic regulation and control unit (16);
  - closing of the separating valve (11) associated with a vehicle axle,
  - opening of the inlet valves (17, 18) associated with the vehicle axle for the purpose of displacing

pressure fluid volume into the wheel brakes (7, 8) of the vehicle axle, while additionally determining values (p,  $\Delta V$ ) representative of the hydraulic pressure introduced into the wheel brakes (7, 8) and the displacement of pressure fluid volume; and

- evaluating of the values for judging the condition of the wheel brakes (7, 8).

2. Method as claimed in claim 1,  
c h a r a c t e r i z e d in that the displacement of pressure fluid, with the high-pressure accumulator (21) charged, takes place by partly opening the inlet valves (17, 18), and in that the reduction of the pressure fluid volume contained in the high-pressure accumulator (21) is taken into consideration as an indicator of the displacement of pressure fluid.
3. Method as claimed in claim 1,  
c h a r a c t e r i z e d in that the displacement of pressure fluid into the wheel brakes, with the high-pressure accumulator discharged, takes place as a result of actuation of the pump and complete opening of the inlet valves (17, 18).
4. Method as claimed in claim 3,  
c h a r a c t e r i z e d in that the displacement of pressure fluid is approximated by numerical integration of the pump volume flow within the electronic control unit.

5. Method as claimed in claim 2 or 3,  
c h a r a c t e r i z e d in that the values ( $p$ ,  $\Delta V$ )  
representing the hydraulic pressure and the  
displacement of pressure fluid volume are compared with  
previously defined threshold values ( $p_{Rmin}$ ,  $\Delta V_{S,max}$ ), and  
the results of the comparison are subjected to a time  
pressure/volume correlation.
6. Method as claimed in claim 5,  
c h a r a c t e r i z e d in that a condition is  
concluded from the fact of an increase of the hydraulic  
pressure introduced into the wheel brakes (7, 8) in  
excess of the previously defined threshold value  
( $p_{Rmin}$ ), during which the indicator of the displacement  
of pressure fluid does not reach the threshold value  
( $\Delta V_{S,max}$ ), in which condition the friction elements of  
the wheel brakes (7, 8) are applied to their associated  
friction surfaces.
7. Method as claimed in claim 5,  
c h a r a c t e r i z e d in that when the indicator  
of the displacement of pressure fluid exceeds the  
(volume) threshold value ( $\Delta V_{S,max}$ ) and the hydraulic  
pressure introduced into the wheel brakes (7, 8) does  
not reach the (pressure) threshold value ( $p_{Rmin}$ ), an  
inadmissible displacement travel of pistons provided in  
the wheel brakes (7, 8) is concluded, representing an  
imminent risk to the maintenance staff during  
maintenance works at the wheel brakes.

8. Method as claimed in claim 7,  
c h a r a c t e r i z e d in that an optical or an  
acoustic warning is issued upon detection of the  
inadmissible displacement travel of the pistons.